#3

OIPE

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/642,405

DATE: 07/05/2001
TIME: 16:38:23

Input Set : A:\20413y.txt
Output Set: N:\CRF3\07032001\I642405.raw

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      <110> APPLICANT: Neeper, Michael P.
            McClements, William L.
            Jansen, Kathrin U.
            Schultz, Loren D.
            Chen, Ling
            Wang, Xin-Min
      <120> TITLE OF INVENTION: SYNTHETIC HUMAN PAPILLOMAVIRUS GENES
      <130> FILE REFERENCE: 20413Y
      <140> CURRENT APPLICATION NUMBER: 09/642,405
C--> <141> CURRENT FILING DATE: 2001-06-21
      <150> PRIOR APPLICATION NUMBER: PCT/US00/22932
      <151> PRIOR FILING DATE: 2000-08-21
      <150> PRIOR APPLICATION NUMBER: 60/210,143
      <151> PRIOR FILING DATE: 2000-06-07
      <150> PRIOR APPLICATION NUMBER: 60/150,728
      <151> PRIOR FILING DATE: 1999-08-25
      <160> NUMBER OF SEQ ID NOS: 150
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63 ctgaagaagt acaccttctg ggaggtgaac ctgaaggaga agttcagcgc cgacctggac 1380
64 cagttccccc tgggccgcaa gttcctgctg caggccggcc tgaaggccaa gcccaagttc 1440
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79 gacagcgaca ccggcgagga cctggtggac ttcatcgtga acgacaacga ctacctgacc 180
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82 tgcgtcgaca acaacatcag cccccgcctg aaggccatct gcatcgagaa gcagagccgc 360
83 gccgccaagc gccgcctgtt cgagagcgag gacagcggct acggcaacac cgaggtggag 420
84 acccagcaga tgctgcaggt ggagggccgc cacgagaccg agacccccctg cagccagtac 480
85 agcggcggca gcggcggcgg ctgcagccag tacagcagcg gcagcggcgg cgagggcgtg 540
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94 cagcgccaga ccgtgctgca gcacagcttc aacgactgca ccttcgagct gagccagatg 1080
95 gtgcagtggg cctacgacaa cgacatcgtg gacgacagcg agatcgccta caagtacgcc 1140
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102 ttcgtgaaca gcaagagcca cttctggctg cagcccctgg ccgacgccaa gatcggcatg 1560
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104 gacggcaacc tggtgagcat ggacgtgaag caccgccccc tggtgcagct gaagtgccct 1680
105 cccctgctga tcaccagcaa catcaacgcc ggcaccgaca gccgctggcc ctacctgcac 1740
106 aaccgcctgg tggtgttcac cttccccaac gagttccct tcgacgagaa cggtaacccc 1800
107 gtgtacgagc tgaacgacaa gaactggaag agcttcttca gccgcacctg gagccgcctg 1860
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109 gtgagcggcc agaacaccaa caccctgtaa 1950
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113 <212> TYPE: DNA
114 <213> ORGANISM: Artificial Sequence
116 <220> FEATURE:

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122 gccatctact acaaggcccg cgagatgggc ttcaagcaca tcaaccacca ggtggtgccc 180
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131 gccacccaca ccaaggccgt ggccctgggc accgaggaga cccagaccac catccagcgc 720
132 ccccgcagcg agcccgacac cggcaacccc tgccacacca ccaagctgct gcaccgcgac 780
133 agcgtggaca gcgccccccat cctgaccgcc ttcaacagca gccacaaggg ccgcatcaac 840
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136 tggaccggcc acaacgtgaa gcacaagagc gccatcgtga ccctgaccta cgacagcgag 1020
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138 ggcttcatga gcatctaa 1098
140 <210> SEQ ID NO: 4
141 <211> LENGTH: 297
142 <212> TYPE: DNA
143 <213> ORGANISM: Artificial Sequence
145 <220> FEATURE:
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151 cccgccggcc aggccgagcc cgaccgcgcc cactacaaca tcgtgacctt ctgctgcaag 180
152 tgcgacagca ccctgcgcct gtgcgtgcag agcacccacg tggacatccg caccctggag 240
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156 <211> LENGTH: 297
157 <212> TYPE: DNA
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166 gacggccagg acagccagcc cctgaagcag cacttccaga tcgtgacctg ctgctgcggc 180
167 tgcgacagca acgtgcgcct ggtggtgcag tgcaccgaga ccgacatccg cgaggtgcag 240
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172 <212> TYPE: DNA
173 <213> ORGANISM: Artificial Sequence

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182 atgctgtgca tgtgctgcaa gtgcgaggcc cgcatcgagc tggtggtgga gagcagcgct 240
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184 tgcgccagcc agcagtaa 318
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211 tgggccagca gcaaggctcc ccacaagcac gccatcgtga ccgtgaccta cgacagcgag 1020
212 gagcagcgcc agcagttcct ggacgtggtg aagatccctc ccaccatcag ccacaagctg 1080
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229 acctgcgagg agctgtggaa caccgagccc acccactgct tcaagaaggg aggccagacc 360
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231 gtgtactaca tgaccgacgc cggcacctgg gacaagaccg ccacctgcgt gagccaccgc 480
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234 aacgacagca tgtgcagcac cagcgacgac accgtgagcg ccacccagct ggtgaagcag 660
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236 ggccagacca gcgccgccac tcgccctggc cactgcggcc tggccgagaa gcagcactgc 780
237 gggcccgtga accctctgct gggcgccgcc accgccaccg gcaacaacaa gcgccgcaag 840
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239 tgcctgcggt accgcctgcg caagcacagc gaccactacc gcgacatcag cagcacctgg 960
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241 acccagcgca ccaagttcct gaacaccgtg gccatccccg acagcgtgca gatcctggtg 1080
242 ggctacatga ccatgtaa 1098
244 <210> SEQ ID NO: 9
245 <211> LENGTH: 129
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250 <223> OTHER INFORMATION: Codon-Optimized HPV16 L1 fragment
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255 cgcctgctg 129
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258 <211> LENGTH: 129
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268 ggcgtgggc 129
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